



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/689,093	10/12/2000	Stephen A. Constantino	00131	8335

7590

12/18/2002

Martha Ann Finnegan
Cabot Corporation
157 Concord Road
Billerica, MA 01821

EXAMINER

DERRINGTON, JAMES H

ART UNIT

PAPER NUMBER

1731

DATE MAILED: 12/18/2002

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/689,093

Applicant(s)

CONSTANTINO ET AL.

Examiner

James Derrington

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-13,15-22 and 24-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-13,15-22 and 24-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 1731

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-5, 8-13, 15-22 and 24-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Witham et al (6,169,049) in view of Abe (4,643,984).

Witham et al discloses the process of heat treating barium titanate particulates at 800 °C whereby the particles are increased in size (See Table 2 and Col. 6, lines 18-24). The starting particle size can be about .2 microns, i.e. .1849 , microns (note Cabot BT-6 in Table 2) and the sintered size can be .5 microns (Note Cabot BT-6 in Table III). The particles are prepared by a hydrothermal process and coated with Bismuth (See Abstract). The reference clearly envisions forming a dielectric layer (Col. 1, line 13 ff) and sintering temperatures falling within the claimed limitations are shown in Table 3.

Applicant has amended claim 1 to recite adjusting the A/B ratio. Abe et al disclose that the prior art is well aware of adjusting the A/B ratio in barium titanate materials. This technique is used for example, to prepare strict ratios such as 1.00 where the material is to be used as a highly dielectric capacitor (See Abe et al at Col. 7, lines 35-42). It would have been obvious for one of ordinary skill in the art to adjust the A/B ratio in the compositions of Witham et al for this purpose. The examiner disagrees with applicant's position regarding claim 19. Attention is directed to Tables 2 and 3 of Witham discussed above.

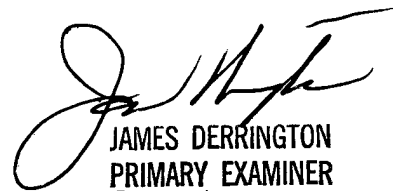
Art Unit: 1731

shows a hydrothermally prepared product and it would have obvious to use this material for art recognized reasons in the process of Bruno et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Derrington whose telephone number is 703 308-3832. The examiner can normally be reached on 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 703 308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are 703 305-7718 for regular communications and 703 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0661.


JAMES DERRINGTON
PRIMARY EXAMINER
ART UNIT ~~137~~ 1731

jd
December 16, 2002

Art Unit: 1731

Claims 1,2, 4-13, 15-22 and 24-56 are rejected under 35 U.S.C. 103(a) as being unpatentable Ittis et al (4,929,574) in view of Witham et al (6,169,049) and Abe (4,643,984).

Ittis et al (4,929,574) discloses the process of heat treating barium titanate particulates at 1100 °C whereby the particles are increased in size (See Col 3, lines 18-50). The starting particle size is submicron (Col. 6, lines 20-21) while the heated treated particle can have a size of about 1 micron (Col. 2, line 19) The particles can be prepared by known processes. (Col. 3, lines 52-62) and thus it would have been obvious to use a hydrothermally product such as shown by Witham et al. The reference clearly envisions forming a dielectric layer (Col. 1, line 13 ff) and sintering temperatures falling within the claimed limitations are shown in Table 3.

Applicant has indicated that the instant heat treating step is not a calcination step (paragraph bridging pages 6-7) while the heat treating step of the reference can be characterized as "calcining" (note Table 1). Applicant would need to recite a difference in manipulative step(s) in order to impart patentability to the claims because currently both the claims and the reference heat treat barium titanate particulates at 1100 °C.

Applicant has amended claim 1 to recite adjusting the A/B ratio. Abe et al disclose that the prior art is well aware of adjusting the A/B ratio in barium titanate materials. This technique is used for example, to prepare strict ratios such as 1.00 where the material is to used as a highly dielectric capacitor (See Abe et al at Col. 7, lines 35-42. It would have been obvious for one of ordinary skill in the art to adjust the A/B ration in the compositions of Ittis et al for this purpose.

Claims 1,2, 4-13, 15-22 and 24-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruno et al (5,155,072) taken with S. A. Bruno et al (Journal of American Chemical Society) in view of Abe (4,643,984).

Bruno et al (5,155,072) disclose the process of heat treating doped barium titanate particulates at 900 °C whereby the particles appear to increase in size (See Col 3, lines 18-50). As further evidence of increase in size, S. A. Bruno et al disclose a related process of heat treating doped barium titanate particulates at 1000 °C whereby the powder is decreased in surface area, i.e. the particle size is increased (See page 1235, Col. 2, second full paragraph). Both references disclose subsequent production of sintered dielectric layers.

Applicant has indicated that the instant heat treating step is not a calcination step (paragraph bridging pages 6-7) while the heat treating steps of the Bruno references characterize heating at 900 °C and 1000 °C as a calcination step. Applicant would need to recite a difference in manipulative step(s) in order to impart patentability to the claims because currently both the claims and the reference heat treat barium titanate particulates at temperatures at 900 °C and 1000 °C.

Applicant has amended claim 1 to recite adjusting the A/B ratio. Abe et al disclose that the prior art is well aware of adjusting the A/B ratio in barium titanate materials. This technique is used for example, to prepare strict ratios such as 1.00 where the material is to be used as a highly dielectric capacitor (See Abe et al at Col. 7, lines 35-42. It would have been obvious for one of ordinary skill in the art to adjust the A/B ratio in the compositions of Bruno et al for this purpose. Abe (Abstract) also